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Part III

Environmental Protection Agency

Hazardous Waste Management System; Identification and Listing of Hazardous Waste

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 261

[SWH-FRL-1891-1]

Hazardous Waste Management System: Identification and Listing of Hazardous Waste

AGENCY: Environmental Protection Agency.

ACTION: Grant of temporary exclusions and request for comment.

SUMMARY: The Environmental Protection Agency (EPA) is today temporarily excluding solid wastes generated at several particular generating facilities from the lists of hazardous waste contained in 40 CFR 261.31 and 261.32. This action responds to delisting petitions submitted under 40 CFR 260.20, (which allows any person to petition the Administrator to modify or revoke any provisions of Part 260 through 265 of the Resource Conservation and Recovery Act Regulations), and §260.22, which specifically provides the generators the opportunity to petition the Administrator to exclude waste on a "cite specific" basis from the hazardous waste list, and gives the Administrator the authority to grant temporary exclusions from the hazardous waste list when there is a substantial likelihood that a final exclusion will be granted. The effect of this action is to temporarily exclude certain hazardous wastes generated at particular facilities from listing as hazardous waste under 40 CFR Part 261.

DATES: Effective date: August 6, 1981.

EPA will accept public comments on these temporary exclusions until October 5, 1981. Any person may request a hearing on these temporary exclusions by filing a request with John P. Lehman, whose address appears below, by August 27, 1981. The request must contain the information prescribed in 40 CFR 260.20(d).

ADDRESSES: Comments should be sent to the Docket Clerk, Office of Solid Waste (WH-565), U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460. Communications should identify the regulatory docket number "Section 3001/Delisting Petitions."

Requests for hearing should be addressed to John P. Lehman, Director, Hazardous and Industrial Waste Division, Office of Solid Waste (WH-565), U.S. Environmental Protection Agency, Washington, D.C. 20460.

The public docket for these temporary exclusions is located in Room 2711, U.S. Environmental Protection Agency, 401 M St. SW., Washington, D.C. 20460 and is available for viewing from 9 a.m. to 4 p.m., Monday through Friday, excluding holidays.

FOR FURTHER INFORMATION CONTACT: Myles Morse, Office of Solid Waste (WH-565), U.S. Environmental Protection Agency, 401 M St. SW., Washington, D.C. (202) 755-9187.

SUPPLEMENTARY INFORMATION: On January 16, 1981, as part of its final and interim final regulations implementing Section 3001 of RCRA, EPA published an amended list of hazardous wastes from non-specific and from specific sources. See 40 CFR 261.31 and 261.32 (46 FR 4614). These wastes were listed as hazardous because they typically and frequently exhibit the characteristics of hazardous wastes identified in Subpart C of Part 261 (ignitability, corrosivity, reactivity and EP toxicity) or meet the criteria for listing contained in §§ 261.11(a)(2) or 261.11(a)(3).

The Agency, however, recognizes that individual waste streams may vary depending on raw materials, industrial processes and other factors. Thus, while a type of waste described in these regulations generally is hazardous, a specific waste meeting the listing description from an individual facility may not be. For this reason, §§ 260.20 and 260.22 provide an exclusion procedure, allowing persons to demonstrate that a specific waste from a particular generating facility should not be regulated as a listed hazardous waste. To be excluded, petitioners must show that the waste produced at their facilities does not meet any of the relevant criteria under which the waste was listed. (See § 260.22(a) and Background Documents for listed wastes.) Wastes which are "delisted" (i.e., excluded from listing in Part 261, Subpart D) may, however, still be hazardous if they exhibit any of the characteristics of a hazardous waste in Part 261, Subpart C, and generators remain obligated to make this determination.

In addition to wastes listed as hazardous in §§ 261.31 and 261.32, residues from the treatment, storage, or disposal of listed hazardous wastes also are eligible for exclusion and remain hazardous wastes until excluded. (See §§ 261.3 (c) and (d)(2).) Again, the substantive standard for "delisting" is that the waste not meet any of the criteria for which the waste was listed originally. Where the waste is derived from one or more listed hazardous wastes, the demonstration may be made with respect to each constituent listed waste, or the waste mixture as a whole. (See § 260.22(b).) Like other excluded wastes, excluded hazardous waste treatment, storage or disposal residues remain subject to Subpart C of Part 261, and so may be hazardous if they exhibit any of the characteristics of hazardous waste.

EPA recognizes as well that there will be circumstances where immediate action on petitions is appropriate. Therefore, upon Agency review of a submitted petition, the Administrator may under § 260.22(m) grant a temporary exclusion if there is substantial likelihood that an exclusion will finally be granted.

It should be noted that the Agency has not yet run spot checks on the test data submitted to date in exclusion petitions. The Agency believes that the sworn affidavits submitted with each petition sufficiently binds the petitioners to ensure presentation of truthful and accurate test results. The Agency may, however, spot sample and analyze wastes or groundwater before a final decision is made whether to exclude any particular waste from the hazardous waste lists.

We also note that the temporary exclusions granted today apply only to the Federal hazardous waste management system established under RCRA. States remain free to take any action they deem appropriate with regard to these wastes.

The temporary exclusions published today involve the following petitioners: International Minerals Chemical Corporation, Terre Haute, Indiana; Timken Company, Canton, Ohio; General Electric, Mattoon, Illinois; Whirlpool Corporation, Fort Smith, Arkansas; Great Lakes Steel, Detroit, Michigan; Whirlpool Corporation, Danville, Kentucky; Crosman Air Guns, Fairport, and East Bloomfield, New York; the Keystone Group, Bartonville, Illinois; Mansfield Products Company, Mansfield, Ohio; Gould Inc., Spartanburg, South Carolina; General Battery Corporation, Reading, Pennsylvania; Maytag Company, Newton, Iowa; Whirlpool Corporation, Marion, Ohio; Talon, Division of Textron, Meadville, Pennsylvania; Bentley Nevada Corporation, Minden, Nevada; Peerless Chain Company, Winona, Minnesota; Whirlpool Corporation, Findlay, Ohio; Mearl Corporation, Peekskill, New York; Industrial Liquids Recycling Inc., Mount Pleasant, Tennessee; Empire-Detroit Steel Division/Cyclops Corporation, Dover, Ohio; Hamblet and Hayes Co., Salem, Massachusetts; and Chem-Clear Inc., Cleveland, Ohio.

I. International Minerals and Chemical Corporation

A. Petition for Exclusion

International Minerals and Chemical Corporation (IMC), involved in the production of pharmaceutical bacitracin, has petitioned the Agency to exclude its still bottom wastes, presently listed as EPA Hazardous Waste No. F003—The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; and the still bottoms from the recovery of these solvents. IMC has petitioned to exclude its waste because it does not meet the criteria for which it was listed.

IMC's bacitracin production process involves media fermentation from culturing a specific strain of bacillus; filtration; n-butanol counter current extraction; distillation/concentration; and n-butanol recovery. The distillation still bottom waste discharged after n-butanol recovery is comprised primarily of water, 500–1,000 ppm suspended biological solids, <1 percent n-butanol, and trace amounts of fermentation enzymes.

IMC has submitted a description of its bacitracin production and n-butanol recovery process, constituent analyses of the distillation bottom material for n-butanol and flash point tests for this material. IMC has also, through testing a series of spiked still bottom samples, determined that up to 2 percent of n-butanol in the still bottoms would still maintain a flash point of greater than 140° F. IMC claims that no greater than 1 percent of n-butanol is present in its still bottom wastes, and its residue does not exhibit the characteristic of ignitability (§ 261.21), the criteria for which EPA Hazardous Waste F003 is listed.

IMC's n-butanol recovery process involves steam distillation; condensation; azeotropic separation; and recirculation. Prior to storage for disposal the still bottoms are sampled for n-butanol. If greater than 1 percent is found by gas chromatographic analysis, the still bottoms are redistilled until the n-butanol content is below 1 percent.

Results of ignitability tests indicate that the flash point of the still bottoms is greater than 210° F.

B. Agency Analysis and Action

EPA Hazardous Waste No. F003 is listed due to the ignitability of spent non-halogenated solvents, one of which is n-butanol, the solvent used in IMC's process. Analyses submitted by IMC indicate that n-butanol is present in the distillation still bottoms in only low percentages (<1.0%) by volume. This is well below the limit of 24 percent alcohol by volume set in § 261.2(a)(i) of the regulations. Section 261.21(a)(1) also indicates that solutions with flash points above 140° F are considered non-ignitable. Flash point tests run on IMC's distillation still bottoms indicate that the flash point is greater than 210° F.

IMC has sufficiently demonstrated the non-hazardous nature of its distillation still bottoms due to the efficiency of its solvent recovery system and continuous monitoring control, which assure that no greater than 1 percent of n-butanol is present in the wastes to be disposed. The Agency therefore, has granted a temporary exclusion to IMC's facility in Terre Haute, Indiana for their distillation bottoms from its bacitracin production process (listed under EPA Hazardous Waste No. F003) as described in its petition.

C. Agency Information Needs for Final Delisting

The Agency believes that IMC has submitted sufficient data for the final delisting of its distillation still bottoms. The Agency has granted a temporary exclusion to expedite delisting action for IMC. Final exclusion will be granted upon review of comments received in response to this publication.

II. Timken Company

A. Petition for Exclusion

The Timken Company (Timken) involved in the manufacture of steel and steel products, has petitioned the Agency to exclude its treated sludge formerly listed as K063 (sludge from lime treatment of spent pickle liquor from steel finishing operations)[1] produced at its facility in Canton, Ohio. The Timken Company has petitioned to exclude its waste because it does not meet the criteria for which the waste was originally listed.

Timken utilizes the process of sulfuric acid pickling of steel. Its waste treatment process for spent pickle liquor, pickling rinse waters, and spent hydrochloric etching acid involves neutralization to pH 10. Timken claims their sludge is environmentally stable and non-hazardous, and specifically that the sludge does not contain hazardous levels of hexavalent chromium and lead, the constituents of concern for which the spent pickle liquor (K062) is listed.

Timken submitted a description of their sludge treatment system and EP toxicity test results for all of the metal constituents specified in § 261.24 of the regulations. The samples were taken over a one month period which the petitioner claims to be representative of any variation of constituent concentration in the waste. EP toxicity tests reveal maximum hexavalent chromium, total chromium and lead levels in the waste extract of <.02 mg/l, .03 mg/l and .17 mg/l, respectively.

B. Agency Analysis and Action

The constituents of concern in this waste are hexavalent chromium and lead. EP extracts from sludge samples analyzed by Timken show lead consistently well below the maximum EP toxicity limits. Values for total chromium are well below the primary drinking water standards, while that for hexavalent chromium is also extremely low. These low leachate levels indicate that the constituents are present in essentially an immobile form. A final pH of 10 indicates that Timken's waste treatment process effectively neutralizes its spent pickle liquor wastes. The Agency, therefore, has granted a temporary exclusion to the Timken Company in Canton, Ohio for its treated spent pickle liquor, as described in its petition.

III. General Electric

A. Petition for Exclusion

The General Electric Company—Mattoon Lamp Plant, involved in a printed circuit board operation and a coil mandrel dissolving operation, has petitioned the Agency to exclude its sludge, presently listed as EPA Hazardous Waste No. F006-Wastewater treatment sludges from electroplating operations except for the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. G.E. has petitioned to exclude its waste because it does not meet the criteria for which it was listed.

The production processes which generate the waste at G.E. include nickel plating, and hydrochloric, nitric, and sulfuric acid etching. The constituents of concern in EPA Hazardous Waste F006 are nickel, cadmium, hexavalent chromium, and cyanide (complexed), however, only nickel is claimed to be used at this facility. G.E. claims that the

[1] On November 12, 1980 (45 FR 74884), EPA removed waste K063 from the hazardous waste list (§ 261.32). However, since these lime treatment sludges are generated from the treatment of a listed hazardous waste (K062), they still are considered to be a hazardous waste (§ 261.3(c)(2)). Further, they remain hazardous wastes until they no longer meet any of the characteristics of hazardous wastes and are delisted (§ 261.3(d)(2)).

treated wastewater sludge it generates is non-hazardous due to the effectiveness of its treatment system.

G.E. has submitted a description of its treatment process, and EP toxicity data for each of the constituents specified in Section 261.24 of the regulations. The samples were taken over a four month period which the petitioner claims to be representative of any variation of constituent concentration in the waste.

The treatment system involves neutralization, flocculation, clarification and pressure filtration. EP toxicity tests of the final treatment sludge revealed maximum cadmium, total chromium and nickel in concentrations of .05, 0.1, and 7.7 ppm, respectively. Total constituent analyses for cyanide produced a maximum concentration of 1.6 ppm.

B. Agency Analysis and Action

Although G.E. uses only nickel in its production process, cadmium and total chromium [2] were present in the EP extract, albeit at values well below the maximum EP toxicity limits for these metals. In addition, the concentration of cyanide in the waste was low. The low concentrations of these constituents are probably a result of unknown minor sources of contamination and background levels, rather than the direct use of these constituents in the plating process. The reported nickel leachate concentration is not considered to be of regulatory concern. These low leachate levels indicate that the constituents are present in essentially an immobile form. The Agency, therefore, has granted a temporary exclusion to the General Electric Company—Mattoon Illinois plant, for its treated electroplating sludge listed under EPA Hazardous Waste No. F006, as described in its petition.

IV. Whirlpool Corporation

A. Petition for Exclusion

The Whirlpool Corporation (Whirlpool), located in Fort Smith, Arkansas, involved in the manufacture of household refrigerators and freezers, has petitioned the Agency to exclude its wastewater treatment sludge, presently listed as EPA Hazardous Waste No. F006—Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. Whirlpool has petitioned to exclude its waste because it does not meet the criteria for which EPA Hazardous Waste No. F006 was listed. Whirlpool claims that the treated wastewater sludge it generates is non-hazardous due to the effectiveness of its treatment system.

Whirlpool has submitted a detailed description of its waste treatment system; EP toxicity test results for cadmium, total chromium and nickel; and constituent analyses of the sludge for cyanide. The treatment system involves lime neutralization, flocculation, clarification, and dewatering by filter press. Samples were obtained over a ten month period which the petitioner claims to be representative of any variation of constituent concentration in the waste. EP toxicity tests involving cadmium, total chromium and nickel produced maximum leachate levels of .04, .05 and 2.3 ppm, respectively. Total constituent analyses for cyanide produced a maximum concentration of 0.69 ppm.

B. Agency Analysis and Action

Whirlpool has demonstrated that its waste treatment system produces a non-hazardous sludge. The EP extract data for cadmium and total chromium are well below the EP toxicity limits for these constituents.[3] The reported nickel leachate concentration is not considered to be of regulatory concern, and the reported cyanide level is also not of concern. These low leachate levels indicate that the constituents are present in essentially an immobile form. The Agency therefore has granted a temporary exclusion to the Whirlpool Corporation of Fort Smith, Arkansas, for its treated electroplating sludge, as described in its petition.

V. Great Lakes Steel

A. Petition for Exclusion

Great Lakes Steel (Division of National Steel Corporation), Ecorse, Detroit, Michigan is involved in the manufacture of steel sheet. Great Lakes Steel (Great Lakes) has petitioned the Agency to exclude its sludge, formerly listed as EPA Hazardous Waste No. K063 (sludge from lime treatment of spent pickle liquor from steel finishing operations) [4] because it does not meet the criteria for which the waste was originally listed.

Great Lakes utilizes the processes of hydrochloric acid pickling and cold rolling and finishing. Its waste treatment process for spent pickle liquor and rinse water involves lime and polymer flocculation, aeration, clarification and sludge dewatering. They claim their sludge is environmentally stable and non-hazardous, and specifically that the sludge does not contain hazardous levels of hexavalent chromium and lead, the constituents of concern for which the spent pickle liquor (K062) is listed.

Great Lakes submitted a detailed description of their sludge treatment system, and EP toxicity test results for all toxic constituents specified in § 261.24 of the regulations. The samples were taken over an eight month period which the petitioner claims is representative of any variation of constituent concentration in the waste. EP toxicity tests revealed maximum total chromium and lead levels in the waste extract of 0.04 and 0.147 ppm, respectively.

B. Agency Analysis and Action

The constituents of concern in this waste are hexavalent chromium and lead. EP extracts from sludge samples analyzed by Great Lakes show lead and total chromium consistently well below the EP toxicity limits.[5] These low leachate levels indicate that the constituents are present in essentially an immobile form. A final pH of 9.0 indicates that Great Lake's waste treatment process effectively neutralizes its spent pickle liquor wastes. The Agency, therefore, has granted a temporary exclusion to the Great Lakes Steel Corporation, Ecorse, Detroit, Michigan for its treated spent pickle liquor, as described in its petition.

VII. Whirlpool Corporation

A. Petition for Exclusion

Whirlpool Corporation's (Whirlpool) facility at Danville, Kentucky is involved in the manufacture of trash compactors, refrigerator ice makers, refrigerator compressor electric motors and miscellaneous electrical wiring components. Whirlpool has petitioned the Agency to exclude its wastewater treatment sludge, presently listed as EPA Hazardous Waste No. F006-Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zince plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping

[2] Hexavalent chromium is listed as the constituent of concern for this waste; however, since the concentration of total chromium is low the concentration of hexavalent chromium would also be low, so that analysis for hexavalent chromium is unnecessary.

[3] See Footnote 2.

[4] See Footnote 1.

[5] See Footnote 2.

associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. Whirlpool has petitioned to delist its waste because it does not meet the criteria for which it was listed.

Whirlpool claims that the production processes which generate the waste do not use cadmium, hexavalent chromium, nickel, or cyanide, the constituents for which the waste is listed. They therefore claim that their treated wastewater sludge is non-hazardous due to the absence of these constituents in the sludge. They also claim that any other toxic compounds used in their process are removed from the sludge by the treatment process.

Whirlpool has submitted a detailed description of its waste treatment system, EP toxicity test results for cadmium, total chromium and nickel, and constituent analyses of the sludge for these metals and cyanide. Samples were obtained over a seven month period which the petitioner claims to be representative of any variation of the constituent concentration in the waste. The treatment system involves lime/alum neutralization, flocculation, clarification, and vacuum filtration.

Constituent analyses of the final treatment sludge revealed cadmium, total chromium, nickel and free cyanide concentrations of 0.35, 118, 8.3, and 0.187 ppm, respectively. EP toxicity tests involving cadmium, total chromium and nickel produced maximum leachate levels of <.020, 1.01, and 2.66 ppm, respectively.

B. Agency Analyses and Action

Whirlpool has demonstrated that its waste treatment system produces a non-hazardous sludge. Whirlpool claims that its production process does not use cadmium, hexavalent chromium, nickel or cyanide. Low concentrations of cadmium, nickel and cyanide are present in the waste; their occurrence probably results from unknown minor sources of contamination and background levels, rather than from the direct use of these constituents in the plating processing. In addition, the EP extract concentration for cadmium is well below the maximum EP toxicity limit for this constituent while that for nickel is not considered to be of regulatory concern.

With respect to hexavalent chromium, the petitioner claimed that hexavalent chromium was not used in the process, but provided no analytical data to support their case (i.e., analysis of sludge for hexavalent chromium). However, since the EP extract concentration for total chromium [6] is well below the maximum EP toxicity limit for this constituent, the Agency has not asked the petitioner to provide any additional data. The Agency, therefore, has granted a temporary exclusion to the Whirlpool Corporation facility in Danville, Kentucky, for its treated electroplating sludge, as described in its petition.

VII. Crosman Air Guns

A. Petition for Exclusion

Crosman Air Guns, located in East Bloomfield and Fairport, New York, (Crosman), involved in the production of BB and pellet guns, has petitioned the Agency to exclude its residue generated from the treatment of EPA Hazardous Waste No. K062-Spent pickle liquor from steel finishing operations; and its wastewater treatment sludge, presently listed as EPA Hazardous Waste No. F006-Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. Crosman has petitioned to exclude its waste because it does not meet the criteria for which these wastes were listed.

The production processes which generate the waste at Crosman include zinc castings deburring, zinc plating on carbon steel, black oxide bluing and copper coating processes. The zinc plating process involves acid pickling of the metal prior to plating. Crosman claims that the treated wastewater sludge it generates is non-hazardous due to the effectiveness of its treatment system.

Crosman has submitted a detailed description of its waste treatment system; EP toxicity test results for cadmium, lead, total chromium and nickel; and constituent analyses of the sludge for cyanide. Samples were obtained over a six month period which the petitioner claims to be representative of any variation of constituent concentration in the waste.

The treatment system process for the spent pickle liquor, the cleaning bath solutions, and the rinsewater over-flow wastes involves pH adjustment with either caustic soda or sulfuric acid, flocculation, settling, and sludge dewatering. EP toxicity tests involving cadmium, total chromium, lead and nickel produced maximum leachate levels of .03, .05, <.2 and .06 ppm, respectively. Cyanide was not detected in the samples.

B. Agency Analysis and Action

Crosman has demonstrated that its waste treatment system produces a non-hazardous sludge. The EP extract concentrations for cadmium and total chromium are all below the national interim primary drinking water standards for these constituents [7] while that for lead is well below the maximum EP toxicity limits. Cyanide was not detected in the sludge. The nickel leachate concentrate is not considered to be of regulatory concern. These low leachate levels indicate that the constituents are present in essentially an immobile form. The Agency, therefore, has granted a temporary exclusion to Crosman Air Gun facilities at Fairport and East Bloomfield, New York, for its treated electroplating sludge and its treated spent pickle liquor, as described in its petition.

VIII. The Keystone Group

A. Petition for Exclusion

The Keystone Group—Bartonville Plant (Keystone), involved in the manufacture of steel, wire and wire products, has petitioned the Agency to exclude its sludge, formerly listed as EPA Hazardous Waste No. K063 (sludge from lime treatment of spent pickle from steel finishing operations).[8] Keystone has petitioned to exclude its waste because it does not meet the criteria for which the waste was originally listed.

Keystone utilizes the processes of cold drawing, acid pickling and lime treatment, sodium hydroxide degreasing and etching in the production of wire from carbon steel wire rods. Its waste treatment process for spent pickle liquor involves neutralization, lime and polymer flocculation, settling, and sludge lagoon dewatering. They claim their sludge is environmentally stable and non-hazardous, and specifically that the sludge does not contain hazardous levels of hexavalent chromium and lead, the constituents of concern for which the spent pickle liquor (K062) is listed.

Keystone submitted a detailed description of their sludge treatment system, and EP toxicity test results for all toxic constituents specified in § 261.24 of the regulations. The samples were taken over a one month period which the petitioner claims to be representative of any variation of

[6] See Footnote 2.

[7] See Footnote 2.

[8] See Footnote 1.

constituent concentration in the waste. EP toxicity tests revealed maximum total chromium and lead levels in the waste extract of 0.05 and 0.45 ppm, respectively.

B. Agency Analysis and Action

The constituents of concern in this waste are hexavalent chromium and lead. EP extracts from sludge samples analyzed by Keystone show lead and total chromium consistently well below the maximum EP toxicity limits.[9] These low leachate levels indicate that the constituents are present in essentially an immobile form. A final pH of 8.3 indicates that Keystone's waste treatment process effectively neutralizes its spent pickle liquor wastes. The Agency, therefore, has granted a temporary exclusion to the Keystone Group's facility in Bartonville, Illinois, for its treated spent pickle liquor, as described in its petition.

IX. Mansfield Products Company

A. Petition for Exclusion

Mansfield Products Company (Mansfield), Mansfield, Ohio, involved in the manufacture of washers, dryers, ranges, and dry cleaning machines, has petitioned the Agency to exclude its treated sludge presently listed as EPA Hazardous Waste No. F006–Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. The production processes at Mansfield Products which generate the listed hazardous wastes are nickel plating and chromate conversion coating. Mansfield Products has petitioned to exclude its waste because it does not meet the criteria for which it was listed.

Mansfield has submitted a description of its electroplating and wastewater treatment processes, and EP toxicity test results for cadmium, total chromium, and nickel, and a constituent analysis for cyanide.

Mansfield's treatment process involves the batch reduction of chromic rinse waste, lime and polymer neutralization and flocculation, clarification, and vacuum filtration dewatering. Samples were collected over a 2 month period which the petitioner claims to be representative of any variation of constituent concentration in the waste. EP toxicity tests involving cadmium, total chromium and nickel produced maximum leachate levels of <0.1, 0.1 and 12.8 ppm, respectively. Total constituent analysis for cyanide was of 5.0 ppm.

B. Agency Analysis and Action

The constituents for which EPA Hazardous Waste No. F006 are listed are cadmium, hexavalent chromium, nickel and cyanide. EP extracts show cadmium and total chromium well below the EP toxicity limits.[10] Nickel extract values are also not considered to be regulatory concern.[11] The reported cyanide levels are not considered to be of regulatory concern. The Agency, therefore, has granted a temporary exclusion to Mansfield Product's facility in Mansfield, Ohio, for its treated wastes, as described in its petition.

X. Gould Incorporated

A. Petition for Exclusion

Gould Incorporated (Gould), involved in the manufacturing of electrical busses, has petitioned the Agency to exclude its wastewater treatment sludge presently listed as EPA Hazardous Waste No. F006–Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. Gould has petitioned to exclude its waste because it does not meet the criteria for which it was listed.

Gould's electroplating processes use copper and silver; cadmium, chromium and nickel are claimed not to be used in any of Gould's processes. Production processes used at Gould include nitric acid stripping, copper bright dip, bronze strike, copper plating, silver strike and silver plating. Cyanides are used in these processes, and Gould's treatment system includes cyanide destruction, equalization, neutralization, caustic precipitation, clarification, lagooned storage, and plate and frame filtration.

Gould has submitted a description of its wastewater treatment process; EP toxicity test results for cadmium, total chromium, nickel, and cyanide; and total constituent analyses of the sludge for cadmium, total chromium, nickel, and free cyanide.

EP toxicity tests for cadmium, total chromium, and nickel produced maximum leachate concentrations of <0.01, <0.05, 0.26 ppm, respectively. Distilled water leachate tests for cyanide produced a maximum level of 0.059 ppm. Constituent analyses of the wastewater sludge indicated maximum cadmium, total chromium, and cyanide concentrations of 5.4, 56.0 and 118 ppm, respectively.

B. Agency Analysis and Action

The constituents for which EPA Hazardous Waste No. F006 are listed are cadmium, hexavalent chromium, nickel and cyanide. Gould has demonstrated that its copper, bronze and silver plating operations do not involve the use of cadmium or chromium. The low concentrations of cadmium and chromium in the sludge are probably a result from unknown minor sources of contamination rather than from the direct use of these constituents in the plating process. In addition, EP extracts show cadmium and total chromium[12] levels consistently below the interim primary drinking water standard. With respect to nickel, the petitioner did not provide any specific analysis for nickel in the sludge and therefore, the Agency has no data to support their claims. However, since the level of nickel in the EP extract is not considered to be of regulatory concern, the Agency has not asked the petitioner to provide any additional data. Finally, the level of free cyanide in the dewatered sludge is considered negligible and is therefore, not of regulatory concern.

The concentration of total complexed cyanides, however, is of concern to the Agency. The Agency has data indicating that complexed cyanides if exposed to sunlight may photodecompose to free cyanide (see background documents for EPA Hazardous Wastes F006 and K086). Gould has requested to empty their lagoon, and dispose of the sludge at a landfill. Gould has also requested to continue using their lagoon (after it is emptied) for sludge placement. The Agency is not presently at a point where

[9] See Footnote 2.

[10] See footnote 2.

[11] In the previous set of delisting petitions which were published in the **Federal Register** (46 FR 17196 March 18, 1981), the Agency had published an interim nickel leachate level of 10 ppm in considering petitions for exclusion. However, after consideration of additional nickel toxicity data, the Agency is amending the allowable nickel leachate level from 10 ppm to 20 ppm. By doing this, the Agency now believes that in most cases, the concentration of nickel in the waste extract at less than 20 ppm would not be of regulatory concern. This new level is based in part on the Agency's re-evaluation of the nickel water quality criterion value, with an upward multiplier allowing for some attenuation and dilution of the contaminant.

[12] See Footnote 2.

it can determine whether the complexed cyanide concentration found in Gould's sludge is of regulatory concern, and the Agency has requested Gould to perform monitoring and screening tests (described below) to aid in making this determination. In the interim, there is a relatively simple management method which can be adopted to assure that photodegradation of complexed cyanides does not occur, namely assuring that the waste is covered daily. EPA has therefore conditioned Gould's temporary exclusion to require disposal of the waste at a state approved or registered landfill where the waste is covered as a daily practice. The Agency therefore, has granted a conditional temporary exclusion to Gould's facility in Spartanburg, South Carolina for the treated wastes generated by its electroplating processes, as described in its petition.

C. Additional Data To Be Submitted

Gould has been informed that in order to dispose of this waste in its lagoons, the problem of possible photodegradation of complexed cyanides must be addressed. EPA has furnished Gould with a laboratory test and sampling methodology to aid in determining to what extent photodegradation of complexed cyanides can be expected in their waste. The test provides for exposure of a sample of the waste enclosed in a quartz tube, to a low pressure mercury arc lamp at a distance of 12 inches for 30 minutes. The tube is connected to an air inlet and the outlet to the adsorber as specified in Method 8.55 *Test Methods for Evaluating Solid Waste.* The results of this test will be used to determine if free cyanide is generated. If hydrogen cyanide is generated, further test development will be necessary to relate actual field sunlight exposure and hydrogen cyanide generation rates. To assist in assessing the actual levels of hydrogen cyanide gas generated on-site, Gould will periodically monitor the air around the lagoon at the surface and at 5 feet above the surface using both grab and long-duration detector tubes.

XI. General Battery Corporation

A. Petition for Exclusion

The General Battery Corporation (GBC), involved in the manufacturing of lead-acid batteries and in secondary smelting for the reclamation of lead from discarded automotive and industrial batteries and other lead-bearing scraps and residues, has petitioned the Agency to exclude its emission control dust/sludge presently listed as EPA Hazardous Waste No. K069 Emission control dust/sludge from secondary lead smelting. GBC has petitioned to exclude its waste because it does not meet the criteria for which it was listed.

The process generating the listed waste at GBC is the secondary lead smelting operation which uses two reverberatory furnaces, and two blast furnaces for the reclamation of lead. GBC has submitted a description of their production and waste treatment processes, total constituent analyses of the waste for cadmium, total chromium and lead; and EP toxicity test results for cadmium, total chromium and lead.

GBC claims that the processing of gases and dust produced by the secondary smelting operation at GBC is significantly different from the method described by EPA in the listing background document. GBC uses a sequenced baghouse/venturi scrubber system which transfers a significant portion of the particulates entrained by the baghouse back to the furnaces for reuse. Sulfur oxide gases are subsequently processed through the venturi scrubber system. The resulting sulfate/sulfite sludge collected is much lower in hazardous constituent content, GBC claims, than that expected for the scrubber-only installations mentioned in the background document. GBC also claims that the hazardous constituents contained in the sludge are essentially non-leachable. Samples were taken over a one month period which the petitioner claims to be representative of any variation of constituent concentration in the waste.

Constituent analyses of the emission control sludge generated by GBC, for cadmium, total chromium, and lead produced maximum concentrations of 0.72, 0.24 and 2800 ppm, respectively. EP toxicity tests produced maximum concentrations of 0.139, 0.024 and 0.69 ppm for cadmium, total chromium and lead, respectively. GBC claims that analyses of unreacted lime prior to use by GBC indicate that the lime may be the source of a significant portion of the leachable lead appearing in the emission control sludge extractions.

B. Agency Analysis and Action

The constituents for which EPA Hazardous Waste K069 is listed are cadmium, hexavalent chromium, and lead. GBC has demonstrated that its sequenced combination baghouse filtration/recycling and venturi scrubber lime neutralization system produces an emission control sludge which is non-hazardous with respect to the hazardous constituents listed for this waste. EP extracts show total chromium levels consistently below the interim primary drinking water standard;[13] while that for lead and cadmium extract levels consistently well below the maximum EP toxicity levels. These low leachate levels indicate that the constituents are present in essentially an immobile form.

The Agency notes that GBC presently combines the listed waste with other lead-bearing wastes and that the resulting mixture fails the EP. The temporary exclusion granted today, of course, applies only to the K069 component of the waste stream, not to the combined waste streams. If this excluded waste stream is combined with any other waste, the mixture must be tested against the hazardous waste characteristics, and if the mixture fails it must be managed as a hazardous waste. (See § 261.3(a)(2)(iii).) The Agency, therefore, has granted a temporary exclusion to General Battery Corporation's facility in Reading, Pennsylvania for its emission control sludge as described in its petition.

It should be noted that the Commonwealth of Pennsylvania obtained Phase I interim authorization for their hazardous waste program under 40 CFR Part 123 on May 26, 1981. Pennsylvania's hazardous waste program includes a provision for delisting, with which General Battery must comply.

The Agency has processed General Battery's petition because it was submitted to EPA prior to the authorization of Pennsylvania's program. The temporary exclusion granted today applies only in those situations which would bring General Battery back under federal jurisdiction. For example, if General Battery's waste is transported in interstate commerce, (see § 123.130(c)), (this includes intrastate transport by an interstate commerce carrier), the waste would then be under federal control and would be considered temporarily excluded from the federal hazardous regulation as described above. The Agency notes, however, that although General Battery's waste is conditionally excluded (as described above) from federal regulatory control in situations where compliance with the federal hazardous waste program is required, Pennsylvania's own regulatory control under the state hazardous waste program is thereby not affected.

XII. Maytag Company

A. Petition for Exclusion

The Maytag Company (Maytag) involved in the manufacturing of

[13] See footnote 2.

washing machines, has petitioned the Agency to exclude its wastewater treatment sludge presently listed for the following EPA Hazardous Waste Nos. F006-Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum; and K062-Spent pickle liquor from steel finishing operations. Maytag has petitioned to exclude its waste treatment residue because it does not meet the criteria for which the component wastes were initially listed.

Maytag utilizes the processes of cleaning, pickling, nickel flash, zinc and chromium plating in finishing washing machines. Maytag claims that no cyanides are used in their production processes.

Maytag has submitted a description of its production and wastewater treatment processes; total constituent analyses and EP toxicity test results of its generated sludge for cadmium, chromuim (both total and hexavalent), nickel, cyanide and lead. The samples were taken over a two week period which the petitioner claims to be representative of any variation of constituent concentration in the waste.

Maytag uses the processes of chromium reduction (using hypochlorite as a reducing agent), lime neutralization, sodium/potassium/aluminum silicate flocculation, precipitation, sedimentation, and vacuum filtration in the treatment of its wastewater. Total constituent analyses of the sludge produced maximum cadmium, total chromium, nickel, cyanide and lead levels of 4.1; 3170; 1220; 0.88 and 111 ppm, respectively. Extraction analyses produced maximum cadmium, total chromium, hexavalent chromium, nickel, cyanide and lead concentrations of 0.0087, 0.690; 0.060; 0.63; 0.03; and 0.172 ppm, respectively.

B. Agency Analysis and Action

The constituents of concern for which EPA Hazardous Waste Nos. F006 and K062 are listed are cadmium, hexavalent chromium, nickel, lead and cyanide. Maytag has sufficiently demonstrated that its wastewater treatment sludge is non-hazardous. EP extracts show cadmium concentrations consistently below the interim primary drinking water level, while lead levels in the EP extracts are consistently well below the EP maximum level. EP extracts for hexavalent chromium is well below that proposed EP toxicity level. EP extracts also show negligible nickel and cyanide concentrations. The low levels of cyanide present in the waste is probably the result from minor sources of contamination and background levels rather than from direct use in the process. These low leachate levels indicate that the constituents are present in essentially an immobile form. A final pH range of 8.1–12.0 indicates that Maytag's waste treatment system effectively neutralizes its acid wastes. The Agency, therefore, has granted a temporary exclusion to Maytag's facility in Newton, Iowa, for its treated wastewater as described in its petition.

XIII. Whirlpool

A. Petition for Exclusion

The Whirlpool Corporation (Whirlpool) involved in the production of dryers, ranges and microwave ovens, has petitioned the Agency to exclude its wastewater treatment sludge presently listed as EPA Hazardous Waste No. F006-Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. Whirlpool has petitioned to exclude its waste because it does not meet the criteria for which it was listed.

Whirlpool uses a zinc phosphating process with a trivalent chromium sealer. Whirlpool claims that nickel, cadmium, hexavalent chromium or cyanide are not used in the process and therefore, claims that its wastewater treatment sludge is non-hazardous with respect to the listed hazardous constituents.

Whirlpool has submitted a description of its phosphating and chromium sealing process; total constituent analyses, and EP toxicity test results of its generated sludge for cadmium, total chromium, nickel and cyanide. The samples were taken over a one month period which the petitioner claims to be representative of any variation of constituent concentration in the waste.

Whirlpool uses the following wastewater treatment processes: Equalization, lime neutralization, cationic polymer flocculation, clarification, lagooning and vacuum filtration. Total constituent analyses of the sludge show maximum cadmium, total chromium, and nickel levels of 6, 4750, and 35, respectively. Cyanide and free cyanide levels were reported to range from 6–159 ppm and 3–99 ppm. The 159 and 99 ppm values were considered outliers from ranges of 6–10 ppm and 3–4.7 ppm represented by all other additional samples tested for cyanide and free cyanide, respectively. Whirlpool further claims that no cyanide is used in any process at the Marion facility and that values reported for free and total cyanide analyses are a result of an interference substance or were created during the analytical testing procedure. Extraction analyses produced maximum cadmium, total chromium, nickel and cyanide concentrations of 0.2, <0.02, 0.55 and 0.14 ppm, respectively.

B. Agency Analysis and Action

The constituents of concern for which EPA Hazardous Waste No. F006 is listed are cadmium, hexavalent chromium, nickel and cyanide. EP extracts show total chromium concentrations consistently below the interim primary drinking water level.[14] [15] EP extract for cadmium is consistently well below the EP maximum levels, and nickel concentrations in Whirlpool's waste are also not of regulatory concern. The low concentrations of cadmium, and nickel are probably a result of unknown minor sources of contamination and background levels, rather than from the direct use of these constituents in Whirlpool's phosphating process. These low leachate levels indicate that the constituents are present in essentially an immobile form. The cyanide concentrations which are claimed to be abberations by Whirlpool, are not of regulatory concern. The Agency, however, is requesting from Whirlpool a complete analysis of how cyanide is being formed in their testing procedures, prior to granting a final delisting. The Agency, therefore, has granted a temporary exclusion to the Whirlpool Corporation's facility in Marion, Ohio for its treated wastewater sludge as described in its petition.

XIV. Talon, Division of Textron

A. Petition for Exclusion

The Talon Division of Textron (Talon), involved in the manufacture of zippers and zipper components, has

[14] See footnote 2.

[15] The petitioner claimed that hexavalent chromium was not used in the process, but provided no analytical data to support their case (i.e., analysis of sludge for hexavalent chromium). However, since the EP extract for chromium is not considered to be of regulatory concern, the Agency has not asked the petitioner to provide any additional data.

petitioned the Agency to exclude the following wastes from the hazardous waste regulations:

F006—Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.

F008—Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process (except for precious metals electroplating bath sludges).

F009—Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process (except for precious metals electroplating spent stripping and cleaning bath solutions).

Talon has petitioned to exclude these wastes because they do not meet the criteria for which they were listed.

Talon uses zinc, copper, and brass plating, aluminum anodizing, acid bright dip operations for brass, aluminum, steel and nickel-silver alloys, and chromating processes on zippers and zipper components. Talon claims that although nickel, chromium, and cyanides are used in its plating processes, its segregated waste treatment system renders its wastestreams non-hazardous, producing an environmentally stable sludge containing non-hazardous levels of hexavalent chromium, nickel and cyanide, Talon further claims that cadmium has not been used in any of its processes since September 1980.

Talon has submitted a description of its wastewater treatment system, EP toxicity test results and total constituent analyses for the hazardous constituents of concern. The samples were taken over a two month period which the petitioner claims to be representative of any variation of constituent concentration in the waste.

Talon's wastewater treatment system separates wastes into segregated cyanide-bearing and acid-bearing streams, which are batch treated, analyzed and controlled. All chromate acid-bearing wastes are treated with ferrous sulfate to reduce hexavalent chromium to trivalent chromium. The batch is then lime neutralized, settled, and lagooned. Cyanide-bearing wastes are oxidized with chlorine and hydrolized with lime, further oxidized with chlorine, settled, and lagooned.

Constituent analyses of the sludge for cadmium, total chromium, nickel, cyanide and free cyanide produced maximum concentrations of 6.7, 57000, 2800, 103, and 11.4 ppm, respectively. EP toxicity tests for cadmium, total chromium, hexavalent chromium, nickel and cyanide produced maximum leachate levels of 0.06, 3.40, <0.01, 12.0 and 0.02 ppm, respectively.

B. Agency Analysis and Action

The constituents of concern for which EPA Hazardous Wastes Nos. F006, F008, and F009 are listed are cadmium, hexavalent chromium, nickel and cyanide. Although Talon uses each of the hazardous constituents of concern except cadmium, it has demonstrated that its waste treatment system produces a non-hazardous sludge when managed under certain conditions. Constituent analyses indicate that cadmium is not presently used in Talon's plating process. The low concentrations of cadmium is probably a result of unknown minor sources of contamination and background levels, rather than the direct use of cadmium in the process. Hexavalent chromium is effectively reduced leaving only negligible quantities of hexavalent chromium in the EP extracts.[16] Free cyanide concentrations in both the leachate and sludge are also not of regulatory concern. Finally, the level of nickel in the EP extracts is not of regulatory concern.[17] These low leachate levels indicate that the constituents are present in essentially an immobile form.

However, the Agency is concerned about cadmium levels in the sludge generated prior to September 1980, (this waste is currently lagooned at Talon's facility). The RCRA regulations do not regulate inactive facilities no longer receiving hazardous wastes after November 18, 1980. Therefore the cadmium bearing waste generated and disposed prior to this date would not be considered a Subtitle C hazardous waste unless moved from this site (a new act of generation). The temporary exclusion granted today thus does not apply to waste generated prior to September, 1980 should that waste be removed from its present location.

The Agency also is concerned about levels of complexed cyanides in these wastes. The Agency has data indicating that complexed cyanides if exposed to sunlight may photodecompose to free cyanide. The Agency is not presently at a point where it can determine whether the complexed cyanide concentration found in Talon's sludge is of regulatory concern. The Agency has requested Talon to perform a screening test (described below) to aid in making this determination. In the interim, there is a relatively simple management method which can be adopted to assure that photodegredation of the complexed cyanides does not occur, namely assuring that the waste is covered daily. The Agency, therefore, has granted a conditionally temporary exclusion to Talon's facility in Meadville, Pennsylvania, for its waste as described in its petition, when disposed at a landfill which covers the wastes as a daily practice.

It should be noted that the Commonwealth of Pennsylvania obtained Phase I interim authorization for their hazardous waste program under 40 CFR Part 123 on May 26, 1981. Pennsylvania's hazardous waste program includes a provision for delisting, with which Talon must comply.

The Agency has processed Talon's petition because it was submitted to EPA prior to the interim authorization of Pennsylvania's program. The temporary exclusion granted today applies only in those situations which would bring Talon's waste back under federal jurisdiction. For example, if Talon's waste is transported in interstate commerce, (see § 123.130c), (this includes intrastate transport by an interstate commerce carrier), the waste would then be under federal control and would be considered temporarily excluded from the federal hazardous waste regulations as described above. The Agency notes, however, that although Talon's waste is conditionally excluded (as described above) from federal regulatory control in situations where compliance with the federal hazardous waste program is required, Pennsylvania's own regulatory control under the state hazardous waste program is thereby not affected.

C. Additional Data To Be Submitted

Talon has been informed that additional test data must be submitted characterizing the possible extent of photodegradation of the complexed cyanides in the waste. EPA has furnished Talon with a laboratory test to aid in determining if photodegradation of complexed cyanides can be expected in their waste. The test provides for exposure of a sample of the waste, enclosed in a quartz tube to a low

[16] On October 30, 1980, the Agency proposed to amend the characteristic of EP toxicity to measure for hexavalent chromium rather than total chromium. The Agency expects to finalize this proposal by the fall of this year. In the meantime, the Agency is analyzing delisting petitions for which chromium is the constituent of concern by both assessing the concentration of total and hexavalent chromium in the waste extract. If the concentration of hexavalent chromium is relatively low, the Agency has decided to consider the concentration of hexavalent chromium rather than total chromium in making a decision.

[17] See Footnote 11.

pressure mercury arc lamp at a distance of 12 inches for 30 minutes. The tube is connected to an air inlet and the outlet to the adsorber as specified in Method 8.55 *Test Methods for Evaluating Solid Waste.* Quantification of the free cyanide generated is determined as specified by method 8.55 *Test Methods for Evaluating Solid Waste.* The results of this test will be used to determine if free cyanide is generated. If free cyanide is generated, further test development will be necessary to relate actual field sunlight exposure to free cyanide generation rates.

XV. Bently Nevada Corporation

A. Petition for Exclusion

The Bently Nevada Corporation, involved in the manufacture of aluminum parts, has petitioned the Agency to exclude its wastewater treatment sludge, presently listed as EPA Hazardous Waste No. F019-Wastewater treatment sludge from the chemical conversion coating of aluminum. Bently Nevada has petitioned to exclude its waste because it does not meet the criteria for which it was listed.

Bently Nevada has submitted a description of its conversion coating process and wastewater treatment process as well as a total constituent analysis of the sludge for cyanide and EP toxicity tests for total chromium and hexavalent chromium. Bently Nevada claims that since cyanide is not used in the chromating process and hexavalent chromium is treated and reduced to the trivalent form, its waste does not contain hazardous levels of cyanide or hexavalent chromium. Samples were taken during a one week period which the petitioner claims to be representative of any variation of constituent concentration in the waste.

Bently Nevada's treatment process involves the addition of sodium bisulfite to the batch dragout tanks (for the reduction of hexavalent chromium) followed by precipitation and final pH adjustment to 8.5±0.5 using lime and sulfuric acid. Hexavalent chromium levels are monitored in the dragout tank prior to pH adjustment with lime. Total constituent analysis of the sludge for cyanide revealed a level of less than 0.005 ppm. EP toxicity tests for total chromium and hexavalent chromium produced maximum concentrations of 85 and 1.8 ppm, respectively.

B. Agency Analysis and Action

The constituents of concern for which EPA Hazardous Waste No. F019 is listed are hexavalent chromium and cyanide. It is apparent from the total constituent analysis that cyanide is not used in Bently Nevada's process, the reported level in any case is well below the Public Health Service's suggested drinking water standard. The 1.8 ppm hexavalent chromium leachate value although of concern to the Agency is considered an outlier when compared with all other samples analyzed which exhibit a concentration of between <0.5 to 0.7 ppm. These leachate analyses indicate that hexavalent chromium concentrations are well below the proposed EP maximum toxicity level.[18]

The Agency has previously stated its concerns about the conversion of trivalent to hexavalent chromium in an oxidizing environment. (See 45 FR 72029–72031 (October 30, 1980) explaining the Agency's current policy regarding the regulation of chromium-containing wastes). The Agency is therefore requiring that this waste be disposed at a landfill approved or registered by the State to handle this type of waste. The Agency, therefore, has granted a conditional temporary exclusion to Bently Nevada's facility in Minden, Nevada for its waste water treatment sludge as described in its petition.

XVI. Peerless Chain Company

A. Petition for Exclusion

The Peerless Chain Company (Peerless) located in Winona, Minnesota, involved in the manufacture of steel chain and wire forms has petitioned the Agency to exclude its sludge, formerly listed as EPA Hazardous Waste No. K063 (sludge from lime treatment of spent pickle liquor from steel finishing operations).[19] Peerless has petitioned to delist its waste because it does not meet the criteria for which the waste was originally listed.

Peerless' manufacturing process utilizes sulfuric acid to pickle coils of steel rod and wire. Its waste treatment process for the spent pickle liquor involves lime neutralization and land disposal of the sludge. They claim their sludge is environmentally stable and non-hazardous, and specifically that the sludge does not contain hazardous levels of hexavalent chromium and lead, the constituents of concern for which the spent pickle liquor (K062) is listed.

Peerless submitted a detailed description of their sludge treatment system, EP toxicity test results, and total constituent analyses for total chromium and lead. The samples were taken over a period of two months which the petitioner claims to be representative of any variation of constituent concentration in the waste. Total constituent analyses of the sludge revealed maximum lead and total chromium levels of 4.04 and 9.20 mg/kg, respectively. EP toxicity tests revealed maximum lead and total chromium levels of 0.21 and 0.10 mg/l, respectively.

B. Agency Analysis and Action

The constituents of concern in this waste are hexavalent chromium and lead. EP extracts from sludge samples analyzed by Peerless show lead and total chromium levels well below the EP maximum toxicity limits.[20] These low leachate levels indicate that the constituents are present in essentially an immobile form. A final pH of 11 indicates that Peerless' waste treatment process effectively neutralizes its spent pickle liquor waste. The Agency, therefore has granted a temporary exclusion to the Peerless Chain Company of Winona, Minnesota, for its treated spent pickle liquor, as described in its petition.

XVII. Whirlpool Corporation

A. Petition for Exclusion

The Whirlpool Corporation located in Findlay, Ohio, involved in the manufacture of household dryers and dishwashers, has petitioned the Agency to delist its treated sludge presently listed as EPA Hazardous Waste No. F006–Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum, (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. Whirlpool has petitioned to delist its waste because it does not meet the criteria for which it was originally listed.

The production process which generated the waste at Whirlpool involves metal preparation using a phosphating pretreatment process. Whirlpool claims that it does not use any of the hazardous constitutents in its manufacturing process (i.e., nickel, cadmium, hexavalent chromium or cyanide) for which EPA Hazardous Waste No. F006 was listed. It therefore claims that the treated wastewater sludge generated is non-hazardous due to the absence of these constituents in the sludge. In addition, it also claims that the treated wastewater sludge is non-hazardous due to the absence of

[18] See footnote 16.

[19] See Footnote 1.

[20] See footnote 2.

any other toxic compounds and due to the effectiveness of their treatment system.

Whirlpool has submitted a detailed description of its waste treatment system, constituent analysis of the sludge and EP toxicity test results for cadmium, total chromium, nickel, and cyanide. Samples were obtained over a six month period which Whirlpool claims to be representative of any variation of constituent concentration in the waste.

The treatment system involves lime neutralization and flocculation, clarification, and vacuum filtration. Constituent analyses of the final treatment sludge revealed cadmium, total chromium, nickel and cyanide concentrations of .82, 35, 2000, and 36 ppm, respectively. EP toxicity results for cadmium, total chromium, nickel and cyanide produced maximum leachate levels of <0.1, <0.1, 8.0, and .18 ppm, respectively.

B. Agency Analysis and Action

The constituents for which EPA Hazardous Waste No. F006 is listed are cadmium, hexavalent chromium, nickel and cyanide. Whirlpool has shown that its phosphating pretreatment process does not involve the use of cadmium, chromium or cyanide. The low concentrations of these contaminants in the sludge are probably a result of unknown minor sources of contamination rather than the direct use of these constituents in the plating process. In addition, EP extracts show cadmium and total chromium levels well below the maximum EP toxicity levels,[21] while cyanide levels are negligible and not of regulatory concern. With respect to nickel, although the petitioner claims that it is not used in the process, the Agency believes a concentration of 2000 ppm is far above what the Agency would consider a minor source of contamination. However, since the EP extract for nickel is not considered to be of regulatory concern, the Agency has not questioned the high contamination of nickel in the sludge. The Agency, therefore, has granted a temporary exclusion to the Whirlpool Corporation of Findlay, Ohio for the treated wastes generated by its electroplating processes, as described in their petition.

XVIII. The Mearl Corporation

A. Petition for Exclusion

The Mearl Corporation (Mearl), involved in the production of cosmetic pigments, has petitioned the Agency to exclude its waste generated from the production of chromium hydroxide treated titanium dioxide-mica pigments; anhydrous chromium oxide treated titanium dioxide-mica pigments and iron blue coated titanium dioxide-mica pigments, from the following EPA Hazardous Wastes:

K006—Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated)

K007—Wastewater treatment sludge from the production of iron blue pigments

Mearl has petitioned to exclude its waste because it does not meet the criteria for which it was originally listed.

Mearl manufactures a variety of pearlescent pigments which include chrome oxide green and iron blue titanium dioxide-coated mica pigments. Mearl claims that its production processes are fundamentally different than those described in the listing background document. The iron blue process involves the precipitation of iron blue onto the titanium dioxide-mica surface using ferrocyanide and ferric salt solution rather than an oxidation reaction; production of anhydrous chrome oxide green involves an aqueous precipitation of the trivalent chromium salt solution (pH 5–7) and low temperature chrome oxide green pigment involves the precipitation of a chromium (III) chloride solution (via pH 6–7 adjustment) onto a titanium oxide-mica pigment, where only low temperature drying is used (100–125°C). Mearl claims that whatever trace amount of chromium enters the sludge is immobile due to high levels of gypsum in the wastestream.

Mearl has submitted a description of its manufacturing process and wastewater treatment system and total constituent analyses and EP toxicity tests for chromium and cyanide. In addition, Mearl has tested its sludge for cyanide amenable to chlorination (free cyanide). Samples were collected over a four month period which the petitioner claims to be representative of any variation of constituent content in the waste.

Mearl uses a centralized collection tank system for batch wastewater treatment, and neutralizes and precipitates the waste by lime addition. Total constituent analyses of the wastewater treatment sludge revealed maximum levels of 65 and 800 ppm for complexed cyanide and total chromium, respectively. EP toxicity tests produced maximum leachate levels of 0.03 ppm for total chromium. Cyanide gas release was monitored when the sludge was subjected to a pH of 5 to 9 and at a pH of 1. No free cyanide was detectable at a pH 5–9 and 1 ppm was present at pH of 1.

B. Agency Analysis and Action

The constituents of concern for which EPA Hazardous wastes K006 and K007 are listed are hexavalent chromium and cyanide. The EP extract samples for total chromium are well below the national interim primary drinking water standard.[22] These low leachate levels indicate that chromium is present in essentially an immobile form. Free cyanide levels are also not of regulatory concern.

The Agency, however, is concerned about the possible photodecomposition of the high levels of complexed (total) cyanide present in the treatment residue. The Agency has data indicating that complexed cyanides photodecompose to free cyanide. The Agency is not presently at a point where it can determine whether the complexed cyanide concentration found in Mearl's sludge is of regulatory concern. However, since no surface impoundments are involved in Mearl's treatment process, a relatively simple management method can be adopted to assure that photodegradation of complexed cyanides does not occur, namely assuring that the waste is covered daily. In addition, Mearl has agreed to perform additional screening tests if their disposal scenario or treatment process changes. The temporary exclusion will therefore require disposal of this waste at a state permitted or registered landfill where the waste is covered daily, eliminating any concern of photodegradation of complexed cyanides. The Agency, therefore, has granted a conditional temporary exclusion to the Mearl Corporation's facility in Peekskill, New York for its treated pigment production wastes as described in its petition.

XIX. Resource Recycling Technologies, Inc./Industrial Liquids Recycling, Inc.

A. Petition for Exclusion

Industrial Liquids Recycling, Inc. (ILR) involved in the treatment of acidic wastewater, chromium bearing wastes and spent pickle liquors, has petitioned the Agency to exclude its treatment residue from unlisted hexavalent chromium-bearing wastes and EPA Hazardous Waste K062-Spent pickle liquor from steel finishing operations. ILR has petitioned to exclude its treatment residue because it no longer meets the criteria for which the initial waste was listed.

[21] See footnote 2.

[22] See footnote 2.

ILR claims that its treatment system neutralizes and immobilizes the hazardous constituents in the accepted wastes as well as reducing all chromium to the trivalent form. ILR also claims that its prescreening system will not allow acceptance of non-treatable wastes (e.g., cyanide-bearing wastes).

ILR has submitted a detailed description of its waste prescreening procedures, and sludge treatment system; constituent analyses of the treatment residue for lead, total chromium, cadmium and nickel; EP toxicity tests of the treatment residue for all the inorganic EP toxic listed constituents; and total constituent analyses of influent accepted wastes. Samples were taken over a one month period which the petitioner claims is representative of any variation of the constituent content in the waste.

ILR's prescreening procedure prior to acceptance of wastes entails pH determination, total acidity and analysis for metals, including EP toxic metals, for all first-time customers. Chromium analyses are performed with both atomic absorption spectrophotometry and a colorimetric (HACH) test kit. ILR's treatment system involves segregated storage; mixing of hexavalent chromium bearing wastes with K062 wastes containing sufficient ferrous iron for chromium reduction (maintained under acidic conditions); batched lime neutralization; settling; flocculation; and pressure filtration.

Total constituent analyses of the treated residue produced maximum total chromium and lead concentrations of 92 and 121 ppm, respectively. EP toxicity tests produced maximum total chromium and lead concentrations of 0.2 and 0.8 ppm, respectively. Total constituent analyses of incoming wastes revealed maximum hexavalent chromium and lead concentrations of 160 and 175 ppm, respectively.

ILR has also developed a contingency plan which addresses process batch monitoring to assure consistent treatment efficiency and a management scenario for any batch for which the treatment residue exhibits characteristics beyond an identified acceptable range. ILR has proposed to take weekly composite samples of their treatment residue and perform an EP toxicity test for all metals enumerated in § 261.24. If a particular batch exceeds 50 percent of the EP maximum levels the residue would be managed as a hazardous waste in accordance with 40 CFR Parts 262 through 265.

B. Agency Analysis and Action

The Agency's function under RCRA includes the establishment of a national program to improve solid waste management and to promote environmentally sound hazardous waste treatment and disposal practices. Properly managed waste treatment facilities could assume an important role in this process particularly in view of the scarcity of hazardous waste disposal sites. The Agency, therefore, wishes to encourage these treatment processes through the exclusion of the treatment residues from the hazardous waste regulations, where justified.

The Agency has reviewed the total constituent analyses and EP toxicity data submitted by ILR on its treatment residue. The EP leachate levels reported for total chromium and lead are well below the EP maximum toxicity levels,[23] indicating that these constituents are present in essentially an immobile form in the treatment residue. The presence of a reducing environment and the low leachate levels of total chromium indicate that the reduction of any hexavalent chromium has gone to completion. The final pH range of 8.4–9.2 of the treated slurry indicates that ILR effectively neutralizes its acid wastes.

The Agency has accepted ILR's contingency plan with the following modifications: The contingency management plan will be implemented if the extract levels for lead exceed 30 percent of the maximum EP limit and the extract levels for hexavalent chromium exceed 30 percent of the proposed maximum EP limit for hexavalent chromium (see 45 FR 72029–72031 (October 30, 1980) explaining the Agency's current policy regarding regulation of chromium-containing wastes). The contingency management plan will provide that all wastes exceeding the 30 percent level as indicated above will be handled as hazardous wastes subject to all regulations under 40 CFR Parts 262–265. The 30 percent level indicated above is the result of negotiations between ILR and the Agency (as well as being based in part on ILR's original proposal), and does not necessarily have precedential significance. The Agency believes it necessary to specify some value in light of ILR's uncertainty as to the limitations of its process, and the possible variation of incoming wastestreams to their facility. To assure that cyanide bearing wastes are not accepted at this facility the Agency is requiring that all trucks be sampled prior to offloading. Samples should be prescreened using the colorimetric test as described in *Standard Methods for Water and Wastewater* Method #413 I, or a comparable test.

[23] See footnote 2.

Based on the EP toxicity data, the prescreening process, and the contingency agreement, the Agency is granting Industrial Liquids Recycling Inc. a temporary exclusion for the treatment residue generated from the treatment process described in its petition at its Mount Pleasant, Tennessee facility.

XX. Empire-Detroit Steel Division/ Cyclops Corporation

A. Petition for Exclusion

The Empire-Detroit Steel Division (Empire), involved in the conversion of uncoated mild-carbon steel coils to galvanized coils and galvanized sheets, has petitioned the Agency to exclude its treated sludge formerly listed as EPA Hazardous Waste No. K063, (sludge from the lime treatment of spent pickle liquor from steel finishing operations).[24] Empire has petitioned to exclude its waste because it does not meet the criteria for which it was listed.

Empire uses the processes of hydrochloric acid pickling, alkali neutralization, liquid fluxing, molten zinc galvanizing and chromate coating. Its treatment process for spent pickle liquor, rinse, and overflow wastes involves mixing with spent alkaline solutions, lime slurry addition for neutralization, (pH adjustment to 8.3), polymer flocculation, clarification and vacuum filtration.

Empire has submitted a description of its wastewater treatment system, and EP toxicity test results for lead and total chromium. The petitioner claims that the samples, taken over a one month period, are representative of any variation of the constituent levels in the wastestream. EP toxicity tests revealed maximum total chromium and lead levels in the waste extract of 0.041 and 0.028 ppm, respectively.

B. Agency and Analysis Action

The constituents of concern in this waste are hexavalent chromium and lead. EP extracts from the sludge samples analyzed by Empire show total chromium and lead consistently below the national interim primary drinking water standards.[25] These low leachate levels indicate that the constituents are present in essentially an immobile form. A final pH of 8.3 indicates that Empire has effectively neutralized its spent pickle liquor wastes. The Agency therefore, has granted the Empire-Detroit Steel Division's facility in Dover, Ohio a temporary exclusion for its

[24] See footnote 1.

[25] See footnote 2.

treated spent pickle liquor and rinse wastes, as described in its petition.

XXI. Hamblet and Hayes Company

A. Petition for Exclusion

The Hamblet and Hayes Company, involved in the production of basic chromium sulfate for the tanning industry, has petitioned the Agency to exclude its treated waste from regulation under the EP toxicity characteristic for total chromium. Hamblet and Hayes claims that its waste is non-hazardous since the chromium present is primarily in the trivalent rather than hexavalent form.[26]

Hamblet and Hayes produces basic chromium sulfate by the addition of sodium dichromate, sulfuric acid and sucrose as a reducing agent. An in-process control is used to assure complete reduction of the hexavalent chromium. The batch production of chromium sulfate is tested for the presence of hexavalent chromium with a potassium iodide test sensitive to 0.1 ppm. If hexavalent chromium is present, sodium bisulfite is added until the chromium is reduced.

Hamblet and Hayes' waste consists of batches of chromium sulfate solution in which chromic oxide or "hydrolyzed chrome" has been formed by undesirable production variables. The chromic oxide exists as a fine colloidal particle. The batches are tested for chromic oxide after the test for hexavalent chromium which is incorporated as a part of their production process. Hamblet and Hayes claims that there is essentially no hexavalent chromium present in its waste stream since their product is tested and reduced if necessary, before it is tested for chromic oxide which if present creates the waste generated by this facility.

Hamblet and Hayes has submitted a description of its production and wastewater treatment process, and results of potassium iodide tests for hexavalent chromium including spiked sample tests and standard comparisons. Diphenyl carbazide tests were also run on the waste stream including spiked sample tests and standard comparisons. In all cases the waste stream contained <0.1 ppm hexavalent chromium. Hamblet and Hayes presently disposes of its waste at a POTW where it is eventually pumped into the outgoing discharge.

B. Agency Analysis and Action

On October 30, 1980 the Agency proposed in the **Federal Register** to amend the characteristic of EP toxicity to apply to hexavalent chromium instead of trivalent chromium, due to evidence of less toxicity and less solubility of the trivalent form. Since this proposal was published, the Agency has been accepting petitions for exclusion for wastes containing trivalent chromium which are generated from processes using trivalent chromium and not generating hexavalent chromium, and where the waste is managed on a non-oxidizing environment. Although Hamblet and Hayes uses hexavalent chromium in its production process, it has shown that through carefully controlled monitoring of batch releases, its waste contains trivalent chromium exclusively (or nearly exclusively). The Agency feels that this continuous monitoring of the chromium sulfate product for hexavalent chromium prior to monitoring for hydrolyzed chromium (which determines whether a batch is waste or useable product), provides assurance that essentially no levels of hexavalent chromium of regulatory concern will be present in the waste. The Agency has accepted the potassium iodide and phenyl carbazide tests performed by Hamblet and Hayes (an alternative to the Agency's proposed analytic method) since it has been validated by the method of standard additions; it appears to be more selective in a high trivalent chromium-bearing waste; and because the concentration of trivalent chromium in the waste stream may have presented a contamination problem when running the co-precipitation extraction procedure. Hexavalent chromium in the waste stream is present at concentrations consistently below the maximum proposed EP toxicity levels. Although Hamblet and Hayes' present disposal scenario is not an oxidizing environment, to prevent any future mismanagement of the high concentration of trivalent chromium in this waste, the Agency has conditioned the temporary exclusion to require that this waste be disposed of in a non-oxidizing environment. (See 45 FR 72029–72031 (Oct. 30, 1980).) The Agency, therefore has granted a conditional temporary exclusion to the Hamblet and Hayes Company in Salem, Massachusetts, for its chromium bearing waste as described in its petition.

XXII. Chem-Clear, Inc.

A. Petition for Exclusion

Chem-Clear, Inc. involved in the treatment of hazardous wastes, has petitioned the Agency to exclude its treatment residue from the following listed EPA Hazardous Wastes:

F006—Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum;

F007—Spent cyanide plating bath solutions from electroplating operations (except for precious metals electroplating spent cyanide plating bath solutions);

F008—Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process (except for precious metals electroplating bath sludges);

K062—Spent pickle liquor from steel finishing operations; and

U188—Phenol

Chem-Clear claims that its treatment residue is nonhazardous and does not meet the criteria for which the accepted wastes were initially listed. Chem-Clear has petitioned to delist the treatment residue, as required by § 261.3(d)(2) of the regulations, since the hazardous constituents of concern are either destroyed, rendered non-toxic, or immobilized.

Chem-Clear has submitted a detailed description of its prescreening and treatment systems; EP toxicity tests and total constituent analyses of the treatment residue for phenol, total cyanide, free cyanide, cadmium, total chromium, hexavalent chromium, lead and nickel; and a contingency monitoring and management plan.

Chem-Clear's prescreening processes involve testing for pH; total organics; settleable and floatable solids; recoverable oil; treatability with respect to sewer discharge limits; sample neutralization; total metals content; total cyanide; phenol and compatibility (e.g., reactivity) with batched materials already in the system. Chem-Clear claims that if a particular material is accepted for pretreatment (e.g., neutralization of strong acid; chromium reduction; cyanide or phenol

[26] On October 30, 1980, the Agency proposed to amend the characteristic of EP toxicity to measure for hexavalent chromium rather than total chromium (See 45 FR 72029). In that same **Federal Register** notice, the Agency provided a mechanism for generators to exclude their waste from hazardous waste status which presently are deemed hazardous solely due to the presence of chromium, but contain trivalent chromium exclusively (or nearly exclusively), are generated from processes which use trivalent chromium exclusively (or nearly exclusively), and are typically and frequently managed in non-oxidizing environments (See 45 FR 72035). This petitioner meets only two of the above conditions (i.e., the wastes are not generated from processes which use trivalent chromium exclusively), but because of special monitoring provisions which will be carried out by the petitioner, the Agency has decided to consider this petition.

destruction) each load is specifically tested to determine correct chemical volumes of additives for pretreatment.

Chem-Clear's pretreatment system involve cyanide and phenol destruction through hydrogen peroxide oxidation; sodium hydroxide addition for neutralization; and acidification and reduction of hexavalent chromium with sodium bisulfite. Final waste treatment involves the batch mixing of wastes by air diffusers and centrifugal pumping, addition of lime, alum, ferric chloride and polymer flocculants; flocculation; clarification; and pressure filtration.

Total constituent analyses of the treatment residue indicated maximum phenol, cyanide, free cyanide, cadmium, total chromium, lead and nickel concentrations of 7.44; 322; 12; 170; 3620; 1090; and 1100 ppm, respectively. EP toxicity tests produced maximum phenol, cyanide, free cyanide, cadmium, total chromium, hexavalent chromium, lead, and nickel concentrations of 0.11; 1.6; 0.22; 0.18; 15.6; 0.84; 0.3; and 2.7 ppm, respectively. Samples were taken over a three month period which the petitioner claims is representative of the constituent concentration variation in the sludge.

In addition, Chem-Clear has proposed a contingency management plan which would assure that the constituents in the treatment residue are consistently within an acceptable range. Chem-Clear will implement a program of treatment residue batch monitoring for each of the EP toxic metals. If concentrations of any of these constituents in the extract exceed 30 percent of the maximum EP toxicity limits, Chem-Clear will manage the waste as a hazardous waste in accordance with 40 CFR Parts 262 through 265.

B. Agency Analysis and Action

The Agency has reviewed the residue analyses and EP toxicity data submitted by Chem-Clear. The EP leachate levels reported for cadmium and lead are well below the EP maximum toxicity levels, while that for hexavalent chromium is well below the proposed EP maximum toxicity level, indicating that these constituents are present in a relatively immobile form in the treatment residue. The concentration of phenol and free cyanide found in the treatment residue is not considered of regulatory concern. Nickel and total cyanide extract levels are also not of regulatory concern.

The Agency has accepted Chem-Clear's proposal to utilize a monitoring system on the influent mixture entering the treatment vessel and on the existing slurry prior to batch treatment, to determine the process control procedures required to limit the leachability of cadmium, chromium, lead and nickel in its treatment residue. The Agency has notified Chem-Clear that information characterizing the effect of variation of metal concentrations and mixtures in the process batch, process control variables, and the types and quantities of treatment chemicals which will determine the limitations of their system should be gathered during the next six month period. This will include identification of raw waste constituent concentration ranges and specific mixing ratios necessary to produce acceptable constituent levels in the waste extract. The Agency also has accepted Chem-Clear's proposed contingency plan with the following modifications:

(1) The contingency plan will be implemented if the extract values for Cr^{+6} exceeds 30 percent of the proposed maximum EP limit for hexavalent chromium (see 45 FR 72029–72031 (October 30, 1980) explaining the Agency's current policy regarding regulation of chromium-containing wastes).

(2) The contingency plan will be implemented if the extract values for nickel exceed 20 ppm in the treated residue.[27]

(3) The contingency plan will be implemented if the concentration of phenol in the treatment residue exceed 15 ppm in the residue. [28]

(4) The contingency plan will be implemented if the concentration of free cyanide exceeds 10 ppm in the treatment residue and if the extraction values for free cyanide exceed 2 ppm.[29]

(5) Any wastes triggering the implementation of the contingency plan will be handled as hazardous wastes subject to all appropriate regulations under 40 CFR Parts 262–265.

The limitations indicated above are the result of negotiations between Chem-Clear and the Agency based substantially on Chem-Clear's original voluntary proposal, and does not necessarily have precedential significance. The Agency believes it necessary to specify some limiting values in light of Chem-Clear's present uncertainty as to the limitations of its process. In addition, a safeguard is necessary in light of the high volumes of toxic constituents in the incoming wastes and in the treatment residue and the high volumes of sludge generated annually by Chem-Clear.

The Agency, however, is concerned about the possible photodecomposition of the high levels of complexed (total) cyanides present in the treatment residue. The Agency has data indicating that complex cyanides if exposed to sunlight may photodecompose to free cyanide. This is easily addressed by assuring that the waste is covered as a daily practice. Therefore, the Agency is requiring that Chem-Clear's treatment residue be disposed at a state permitted or registered landfill where the waste is covered as a daily practice, eliminating any concern of photodecomposition of the complexed cyanides.

Thus, based on the EP toxicity data for the heavy metals, total cyanide and total concentration of phenol in the treatment residue, the prescreening processes, and the contingency agreement, the Agency is granting Chem-Clear's Cleveland, Ohio facility a conditional temporary exclusion for the treatment residue generated from the treatment process, described in its petition.

C. Agency Information Needs for Final Delisting

The Chem-Clear Corporation has been notified that prior to receiving final delisting, the limitations of its system must be determined as previously described in this publication.

Amendment to Previous Temporary Exclusions

As discussed earlier, the Agency had published an interim nickel leachate level of 10 ppm in considering petitions for exclusion (i.e., any waste extract for nickel which was less than 10 ppm was not of regulatory concern (46 FR 17196, March 18, 1981)). After consideration of additional nickel toxicity data, however, the Agency is amending the allowable nickel leachate level from 10 to 20 ppm. By doing this, the Agency now believes that in most cases, the concentration of nickel in the waste extract at less than 20 ppm would not be of regulatory concern. This level is based in part on the Agency's amended nickel water quality criterion value, with an upward multiplier allowing for some attenuation and dilution of the contaminant.

The temporary exclusions granted to the following facilities are therefore amended as follows to incorporate the

[27] See footnote 11.

[28] As the Agency indicated in the **Federal Register** on January 16, 1981, the Agency does not believe the current EP is aggressive enough for measuring the mobility of organics. Therefore, in order to ensure the Agency's concerns are met with respect to phenol, the action level for phenol will be set on the concentration of phenol present in the sludge, rather then in the extract. This level is based in part on the ambient water quality criterion for phenol and the acceptable daily intake for phenol determined by the Office of Water, Criteria and Standards Division, October, 1980.

[29] The free cyanide level is based in part on the standard for cyanide while the extract level is based in part on the Public Health Service's suggested drinking water standard.

present nickel leachate value of 20 ppm below which nickel leachate values are not considered to be of regulatory concern:

(1) Systech Liquid Treatment Corporation, Hilliard, Ohio
Systech's contingency plan will be implemented if the extract values for nickel exceed 20 ppm in the dewatered slurry leachate.

(2) Systech Liquid Treatment Corporation, Nashville, Tennessee
Systech's contingency plan will be implemented if the extract values for nickel exceed 20 ppm in the dewatered slurry leachate.

(3) Systech Liquid Treatment Corporation, Muskegon Heights, Michigan
Systech's contingency plan will be implemented if the extract values for nickel exceed 20 ppm in the dewatered slurry leachate.

Regulatory Impact

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Anaylsis. This grant of temporary exclusions is not major since its effect is to reduce the overall costs and economic impact of EPA's hazardous waste management regulations. This reduction is achieved by excluding wastes generated at specific facilities from EPA's listed hazardous wastes, thereby enabling the facility to treat its waste as non-hazardous eliminating the need for compliance with the hazardous waste regulations.

This amendment was submitted to the Office of Management and Budget for review as required by Executive Order 12291.

Dated: July 29, 1981.
Christopher J. Capper,
Acting Assistant Administrator.

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